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PATENT

Docket No.: 176/60792 (6-11415-868)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Mahin D. Maines)
Serial No. : 09/606,129) Examiner:
Cnfrm. No. : 5529) D. Ramirez
Filed : June 28, 2000) Art Unit:
For : BILIVERDIN REDUCTASE FRAGMENTS) 1652
AND VARIANTS, AND METHODS OF USING)
BILIVERDIN REDUCTASE AND SUCH)
FRAGMENTS AND VARIANTS)

STATEMENTS IN ACCORDANCE WITH 37 C.F.R. § 1.821

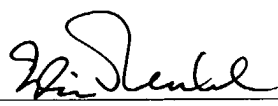
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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

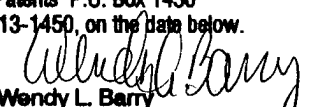
In accordance with 37 C.F.R. § 1.821, applicant hereby submits a Sequence Listing (21 pages) on paper and on a computer readable 3.5" Diskette. In accordance with 37 C.F.R. § 1.821(f), applicant submits that the contents of the paper copy and the computer readable form are the same. In accordance with 37 C.F.R. § 1.821(g), applicant submits that the Sequence Listing contains no new matter.

Respectfully submitted,

Dated: March 3, 2004


Edwin V. Merkel
Registration No. 40,087

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Rochester, New York 14603-1051
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Facsimile: (585) 263-1600

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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450, on the date below.	
Date <u>3/3/04</u>	 Wendy L. Barry



SEQUENCE LISTING

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MAR 12 2004

<110> Maino, Mahin D.

<120> BILIVERDIN REDUCTASE FRAGMENTS AND VARIANTS, AND
METHODS OF USING BILIVERDIN REDUCTASE AND SUCH
FRAGMENTS AND VARIANTS

<130> 176/60792

<140> 09/606,129

<141> 2000-06-28

<150> 60/141,309

<151> 1999-06-28

<150> 60/163,223

<151> 1999-11-03

<160> 37

<170> PatentIn Ver. 2.1

<210> 1

<211> 296

<212> PRT

<213> Homo sapiens

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Ser Ser Ala Phe Leu Asn Leu Ile Gly Phe Val Ser Arg Arg Glu Leu
35 40 45

Gly Ser Ile Asp Gly Val Gln Gln Ile Ser Leu Glu Asp Ala Leu Ser
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Ser Gln Glu Val Glu Val Ala Tyr Ile Cys Ser Glu Ser Ser Ser His
65 70 75 80

Glu Asp Tyr Ile Arg Gln Phe Leu Asn Ala Gly Lys His Val Leu Val
85 90 95

Glu Tyr Pro Met Thr Leu Ser Leu Ala Ala Ala Gln Glu Leu Trp Glu

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Leu Leu Lys Gly Ser Leu Leu Phe Thr Ser Asp Pro Leu Glu Glu Asp		
145	150	155
Arg Phe Gly Phe Pro Ala Phe Ser Gly Ile Ser Arg Leu Thr Trp Leu		
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Val Ser Leu Phe Gly Glu Leu Ser Leu Val Ser Ala Thr Leu Glu Glu		
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Arg Lys Glu Asp Gln Tyr Met Lys Met Thr Val Cys Leu Glu Thr Glu		
195	200	205
Lys Lys Ser Pro Leu Ser Trp Ile Glu Glu Lys Gly Pro Gly Leu Lys		
210	215	220
Arg Asn Arg Tyr Leu Ser Phe His Phe Lys Ser Gly Ser Leu Glu Asn		
225	230	235
Val Pro Asn Val Gly Val Asn Lys Asn Ile Phe Leu Lys Asp Gln Asn		
245	250	255
Ile Phe Val Gln Lys Leu Leu Gly Gln Phe Ser Glu Lys Glu Leu Ala		
260	265	270
Ala Glu Lys Lys Arg Ile Leu His Cys Leu Gly Leu Ala Glu Glu Ile		
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Gln Lys Tyr Cys Cys Ser Arg Lys		
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<212> DNA

<213> Homo sapiens

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Ser Ser Ala Phe Leu Asn Leu Ile Gly Phe Val Ser Arg Arg Glu Leu
          35                      40                      45

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Gly Ser Ile Asp Gly Val Gln Gln Ile Ser Leu Glu Asp Ala Leu Ser
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Ser Gln Glu Val Glu Val Ala Tyr Ile Cys Ser Glu Ser Ser Ser His
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Glu Asp Tyr Ile Arg Gln Phe Leu Asn Ala Gly Lys His Val Leu Val
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Glu Tyr Pro Met Thr Leu Ser Leu Ala Ala Ala Gln Glu Leu Trp Glu
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Leu Ala Glu Gln Lys Gly Lys Val Leu His Glu Glu His Val Glu Leu
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Leu Met Glu Glu Phe Ala Phe Leu Lys Lys Glu Val Val Gly Lys Asp

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Val Ser Leu Phe Gly Glu Leu Ser Leu Val Ser Ala Thr Leu Glu Glu		
	180	185 190
Arg Lys Glu Asp Gln Tyr Met Lys Met Thr Val Cys Leu Glu Thr Glu		
	195	200 205
Lys Lys Ser Pro Leu Ser Trp Ile Glu Glu Lys Gly Pro Gly Leu Lys		
	210	215 220
Arg Asn Arg Tyr Leu Ser Phe His Phe Lys Ser Gly Ser Leu Glu Asn		
	225	230 235 240
Val Pro Asn Val Gly Val Asn Lys Asn Ile Phe Leu Lys Asp Gln Asn		
	245	250 255
Ile Phe Val Gln Lys Leu Leu Gly Gln Phe Ser Glu Lys Glu Leu Ala		
	260	265 270
Ala Glu Lys Lys Arg Ile Leu His Cys Leu Gly Leu Ala Glu Glu Ile		
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Gln Lys Tyr Cys Cys Ser Arg Lys		
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 <213> Rattus norvegicus

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 35 40 45

Ser Leu Asp Glu Val Arg Gln Ile Ser Leu Glu Asp Ala Leu Arg Ser
 50 55 60

Gln Glu Ile Asp Val Ala Tyr Ile Cys Ser Glu Ser Ser Ser His Glu
 65 70 75 80

Asp Tyr Ile Arg Gln Phe Leu Gln Ala Gly Lys His Val Leu Val Glu
 85 90 95

Tyr Pro Met Thr Leu Ser Phe Ala Ala Ala Gln Glu Leu Trp Glu Leu
 100 105 110

Ala Ala Gln Lys Gly Arg Val Leu His Glu Glu His Val Glu Leu Leu
 115 120 125

Met Glu Glu Phe Glu Phe Leu Arg Arg Glu Val Leu Gly Lys Glu Leu
 130 135 140

Leu Lys Gly Ser Leu Arg Phe Thr Ala Ser Pro Leu Glu Glu Glu Arg
 145 150 155 160

Phe Gly Phe Pro Ala Phe Ser Gly Ile Ser Arg Leu Thr Trp Leu Val
 165 170 175

Ser Leu Phe Gly Glu Leu Ser Leu Ile Ser Ala Thr Leu Glu Glu Arg
 180 185 190

Lys Glu Asp Gln Tyr Met Lys Met Thr Val Gln Leu Glu Thr Gln Asn
 195 200 205

Lys Gly Leu Leu Ser Trp Ile Glu Glu Lys Gly Pro Gly Leu Lys Arg
 210 215 220

Asn Arg Tyr Val Asn Phe Gln Phe Thr Ser Gly Ser Leu Glu Glu Val
 225 230 235 240

Pro Ser Val Gly Val Asn Lys Asn Ile Phe Leu Lys Asp Gln Asp Ile
 245 250 255

Phe Val Gln Lys Leu Leu Asp Gln Val Ser Ala Glu Asp Leu Ala Ala
 260 265 270

Glu Lys Lys Arg Ile Met His Cys Leu Gly Leu Ala Ser Asp Ile Gln
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Lys Leu Cys His Gln Lys Lys
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<210> 6
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<220>
 <223> Description of Artificial Sequence: hydrophobic
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<220>
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 <222> (2)
 <223> where X is any aa

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 1 5

<210> 7

<211> 6
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: nucleotide
binding domain of BVR

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<222> (2)

<223> where X is any aa

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<222> (4) .. (5)

<223> where X is any aa

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<210> 8

<211> 8

<212> PRT

<213> Artificial Sequence

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<223> Description of Artificial Sequence:
oxidoreductase domain of BVR

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Ala Gly Lys His Val Leu Val Glu
1 5

<210> 9

<211> 29

<212> PRT

<213> Artificial Sequence

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<223> Description of Artificial Sequence: leucine
zipper of BVR

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<221> PEPTIDE

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<223> where X is any aa

<220>

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<222> (9)..(14)

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<222> (16)..(21)

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<222> (23)..(28)

<223> where X is any aa

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Xaa Xaa Xaa Xaa Xaa Leu Xaa Xaa Xaa Xaa Xaa Xaa Leu
20 25

<210> 10

<211> 3

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: kinase motif
of BVR

<400> 10

Ser Arg Arg
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<210> 11

<211> 3

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: kinase motif
of BVR

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<210> 12
<211> 3
<212> PRT
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<223> Description of Artificial Sequence: kinase motif
of BVR

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<223> where X is any aa

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Phe Gly Xaa
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<210> 13
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<212> PRT
<213> Artificial Sequence

<220>
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localization signal of BVR

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1 5

<210> 14
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: methylation
site of BVR

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Pro Gly Leu Lys Arg

1 5

<210> 15

<211> 14

<212> PRT

<213> Artificial Sequence

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<223> Description of Artificial Sequence: zinc finger
domain of BVR

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<221> PEPTIDE

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<211> 7

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<213> Artificial Sequence

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<223> Description of Artificial Sequence: protein
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<211> 8

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<213> Artificial Sequence

<220>
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<223> Description of Artificial Sequence: protein
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<212> PRT
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<220>
<223> Description of Artificial Sequence: protein
kinase C inhibitor peptide of rBVR

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 <213> Homo sapiens

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Pro	His	Trp	Tyr	His	Phe	Ser	Cys	Phe	Trp	Lys	Val	Gly	His	Ser	Ile	50	55	60	
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Lys	Gly	Asp	Glu	Val	Asp	Gly	Val	Asp	Glu	Val	Ala	Lys	Lys	Lys	Ser	210	215	220	
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Ser Thr Asn Asp Leu Lys Glu Leu Leu Ile Phe Asn Lys Gln Gln Val						
	260		265		270	
Pro Ser Gly Glu Ser Ala Ile Leu Asp Arg Val Ala Asp Gly Met Val						
	275		280		285	
Phe Gly Ala Leu Leu Pro Cys Glu Glu Cys Ser Gly Gln Leu Val Phe						
	290		295		300	
Lys Ser Asp Ala Tyr Tyr Cys Thr Gly Asp Val Thr Ala Trp Thr Lys						
305		310		315		320
Cys Met Val Lys Thr Gln Thr Pro Asn Arg Lys Glu Trp Val Thr Pro						
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Lys Glu Phe Arg Glu Ile Ser Tyr Leu Lys Lys Leu Lys Val Lys Lys						
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Gln Asp Arg Ile Phe Pro Pro Glu Thr Ser Ala Ser Val Ala Ala Thr						
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Pro Pro Pro Ser Thr Ala Ser Ala Pro Ala Ala Val Asn Ser Ser Ala						
	370		375		380	
Ser Ala Asp Lys Pro Leu Ser Asn Met Lys Ile Leu Thr Leu Gly Lys						
385		390		395		400
Leu Ser Arg Asn Lys Asp Glu Val Lys Ala Met Ile Glu Lys Leu Gly						
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Gly Lys Leu Thr Gly Thr Ala Asn Lys Ala Ser Leu Cys Ile Ser Thr						
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Lys Lys Glu Val Glu Lys Met Asn Lys Lys Met Glu Glu Val Lys Glu						
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Ala Asn Ile Arg Val Val Ser Glu Asp Phe Leu Gln Asp Val Ser Ala						
	450		455		460	
Ser Thr Lys Ser Leu Gln Glu Leu Phe Leu Ala His Ile Leu Ser Pro						
465		470		475		480
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Glu	Glu	Gly	Ile	Asn	Lys	Ser	Glu	Lys	Arg	Met	Lys	Leu	Thr	Leu	Lys		
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Gly	Gly	Ala	Ala	Val	Asp	Pro	Asp	Ser	Gly	Leu	Glu	His	Ser	Ala	His		
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Val	Leu	Glu	Lys	Gly	Gly	Lys	Val	Phe	Ser	Ala	Thr	Leu	Gly	Leu	Val		
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Asp	Ala	Ile	Glu	His	Phe	Met	Lys	Leu	Tyr	Glu	Glu	Lys	Thr	Gly	Asn		
	610					615					620						
Ala	Trp	His	Ser	Lys	Asn	Phe	Thr	Lys	Tyr	Pro	Lys	Lys	Phe	Tyr	Pro		
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Ile	Lys	Met	Ile	Phe	Asp	Val	Glu	Ser	Met	Lys	Lys	Ala	Met	Val	Glu		
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Ser Ser Lys Asp Pro Ile Asp Val Asn Tyr Glu Lys Leu Lys Thr Asp		
785	790	795
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Tyr Val Lys Asn Thr His Ala Thr Thr His Asn Ala Tyr Asp Leu Glu		
820	825	830
Val Ile Asp Ile Phe Lys Ile Glu Arg Glu Gly Glu Cys Gln Arg Tyr		
835	840	845
Lys Pro Phe Lys Gln Leu His Asn Arg Arg Leu Leu Trp His Gly Ser		
850	855	860
Arg Thr Thr Asn Phe Ala Gly Ile Leu Ser Gln Gly Leu Arg Ile Ala		
865	870	875
Pro Pro Glu Ala Pro Val Thr Gly Tyr Met Phe Gly Lys Gly Ile Tyr		
885	890	895
Phe Ala Asp Met Val Ser Lys Ser Ala Asn Tyr Cys His Thr Ser Gln		
900	905	910
Gly Asp Pro Ile Gly Leu Ile Leu Leu Gly Glu Val Ala Leu Gly Asn		
915	920	925
Met Tyr Glu Leu Lys His Ala Ser His Ile Ser Lys Leu Pro Lys Gly		
930	935	940
Lys His Ser Val Lys Gly Leu Gly Lys Thr Thr Pro Asp Pro Ser Ala		
945	950	955
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1010

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<212> DNA

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<223> Description of Artificial Sequence: probe

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<223> Description of Artificial Sequence: protein
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